

SUB A1

1. An antenna, comprising:

a number of antenna elements wherein said antenna elements are formed of conductive loaded resin-based materials; and

5 electrical communication to said antenna elements.

2. The antenna of claim 1 wherein said conductive loaded resin-based materials comprises micron conductive powders.

3. The antenna of claim 1 wherein said conductive loaded resin-based materials comprises micron conductive fibers.

4. The antenna of claim 1 wherein said conductive loaded resin-based materials comprises petrochemicals.

5. The antenna of claim 1 wherein said conductive loaded resin-based materials comprises silicones.

6. The antenna of claim 1 wherein said conductive loaded resin-based materials comprises polyesters with woven or webbed micron conductive fibers forming a cloth like material.

7. The antenna of claim 1 wherein said antenna elements are imbedded in a plastic case for portable electronic equipment.

10075778.021402

AI
contd
8. The antenna of claim 1 wherein said antenna elements are imbedded in vehicle window moldings.

9. The antenna of claim 1 wherein said antenna can be a radiating antenna, a receiving antenna, or both.

10. An antenna, comprising:

a first antenna element formed of conductive loaded resin-based materials;

a second antenna element formed of conductive loaded resin-based materials; and

electrical connections to said first antenna element and said second antenna element.

11. The antenna of claim 10 wherein said first antenna element and said second antenna element each have a length and a rectangular cross sectional area and are arranged in a dipole configuration.

12
13. The antenna of claim 10 wherein said conductive loaded resin-based materials comprises micron conductive powders.

13
14. The antenna of claim 10 wherein said conductive loaded resin-based materials comprises micron conductive fibers.

10075778.021402
5

41
contd
14
15. The antenna of claim 10 wherein said conductive loaded resin-based materials comprises petrochemicals.

15
16. The antenna of claim 10 wherein said conductive loaded resin-based materials comprises silicones.

16
17. The antenna of claim 10 wherein said conductive loaded resin-based materials comprises polyesters with woven or webbed micron conductive fibers forming a cloth like material.

17
18. The antenna of claim 10 wherein said first antenna element and said second antenna element are imbedded in a plastic case for portable electronic equipment.

18
19. The antenna of claim 10 wherein said first antenna element and said second antenna element are embedded in an automobile bumper formed of insulating material.

19
20. The antenna of claim 1 wherein said first antenna element and said second antenna element are imbedded in vehicle window moldings.

20
21. The antenna of claim 10 wherein said antenna can be a radiating antenna, a receiving antenna, or both.

10075778-021402

22. The antenna of claim 10 wherein said electrical connections comprise a coaxial cable having a center conductor and further comprising an amplifier connected between said first antenna element and said center conductor of said coaxial cable.

23. An antenna, comprising:

an antenna element formed of conductive loaded resin-based materials;

a conducting ground plane;

insulating material separating said antenna element from said ground plane; and

electrical connections to said antenna element and said ground plane.

24. The antenna of claim 23 wherein said ground plane is formed of conductive loaded resin-based materials.

25. The antenna of claim 23 wherein said conductive loaded resin-based materials comprises micron conductive powders.

26. The antenna of claim 23 wherein said conductive loaded resin-based materials comprises micron conductive fibers.

27. The antenna of claim 23 wherein said conductive loaded resin-based materials comprises petrochemicals.

28. The antenna of claim 23 wherein said conductive loaded resin-based materials comprises silicones.

29. The antenna of claim 23 wherein said conductive loaded resin-based materials comprises polyesters with woven or webbed micron conductive fibers forming a cloth like material.

30. The antenna of claim 23 wherein said antenna can be a radiating antenna, a receiving antenna, or both.

31. The antenna of claim 23 wherein said antenna element is perpendicular to said ground plane in a monopole configuration.

32. The antenna of claim 23 wherein said antenna element is a rectangular plate parallel to said ground plane.

33. The antenna of claim 23 wherein said antenna element and said ground plane are imbedded in a plastic case for portable electronic equipment.

34. The antenna of claim 23 wherein said antenna element and said ground plane are imbedded in an automobile bumper formed of insulating material.

1007578-021402

At
contd

AI
confd
35. The antenna of claim 23 wherein said antenna element and said ground plane are imbedded in vehicle window moldings.

5
36. The antenna of claim 23 wherein said electrical connections comprise a coaxial cable having a center conductor and further comprising an amplifier connected between said antenna element and said center conductor of said coaxial cable.

10075778-021402
5
37. A method of forming an antenna, comprising:
 forming a number of antenna elements from conductive loaded resin-based materials using injection molding or extrusion;
 5 arranging said antenna elements in an antenna array;
 and
 forming electrical connections to said antenna elements.

38. The method of claim 37 wherein said antenna array forms a dipole antenna.

39. The method of claim 37 wherein said antenna array forms a monopole antenna.

AI
cont'd
40. The method of claim 37 wherein said antenna elements are rectangular plates and said antenna array forms a patch antenna.

41. The method of claim 37 wherein said conductive loaded resin-based materials comprises micron conductive powders.

42. The method of claim 37 wherein said conductive loaded resin-based materials comprises micron conductive fibers.

43. The method of claim 37 wherein said conductive loaded resin-based materials comprises petrochemicals.

44. The method of claim 37 wherein said conductive loaded resin-based materials comprises silicones.

44
45. The method of claim 37 wherein said antenna can be a radiating antenna, a receiving antenna, or both.

10075778-021402